

**IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

SLOAN VALVE COMPANY,)	
)	
)	
Plaintiff,)	
)	Case No. 10-cv-00204
v.)	
)	
)	
ZURN INDUSTRIES, INC., and)	
ZURN INDUSTRIES, LLC,)	
)	
)	
Defendants.)	

MEMORANDUM OPINION AND ORDER

AMY J. ST. EVE, District Court Judge:

Plaintiff Sloan Valve Company (“Sloan”) filed the present civil action against Defendant Zurn Industries, Inc. and Zurn Industries, LLC (collectively “Zurn”) alleging various patent infringement claims of its U.S. Patent No. 7,607,635 entitled “Flush Valve Handle Assembly Providing Dual Mode Operation” (“the *Wilson* Patent”) and of the corresponding U.S. Patent Application Publication No. 2006/0151729 (“the *Wilson* Patent Application”). In its Amended and Supplemental Complaint, Sloan asserts claims of direct infringement of the *Wilson* patent, infringement of the *Wilson* Patent Application, inducement to infringe the *Wilson* patent, and contributory infringement. Sloan specifically alleges that Zurn infringed claims 1, 4-6, 10-12, 14, 19, 29-31, and 33-34 of the *Wilson* Patent.

Before the Court is Sloan’s motion for summary judgment on direct infringement of the *Wilson* patent, Zurn’s invalidity defenses of anticipation and obviousness with respect to all asserted claims of the *Wilson* patent other than claim 12, Zurn’s best mode defense, Zurn’s

enablement defense, and Zurn's written description defense. Also before the court is Zurn's motion for summary judgment on Sloan's infringement claims and Zurn's non-infringement claims, Zurn's best mode invalidity defenses, and Sloan's willful infringement claims.¹ For the reasons discussed below, Sloan's motion is granted in part and denied in part, and Zurn's motion is denied.

BACKGROUND

I. Northern District of Illinois Local Rule 56.1

"For litigants appearing in the Northern District of Illinois, the Rule 56.1 statement is a critical, and required, component of a litigant's response to a motion for summary judgment. The purpose of the local rule is to make the summary judgment process less burdensome on district courts, by requiring the parties to nail down the relevant facts and the way they propose to support them." *Sojka v. Bovis Lend Lease, Inc.*, 686 F.3d 394, 398 (7th Cir. 2012). Local Rule 56.1 assists the Court by "organizing the evidence, identifying undisputed facts, and demonstrating precisely how each side propose[s] to prove a disputed fact with admissible evidence." *Bordelon v. Chi. Sch. Reform Bd. of Trs.*, 233 F.3d 524, 527 (7th Cir. 2000). "The Rule is designed, in part, to aid the district court, 'which does not have the advantage of the parties' familiarity with the record and often cannot afford to spend the time combing the record to locate the relevant information,' in determining whether a trial is necessary." *Delapaz v. Richardson*, 634 F.3d 895, 899 (7th Cir. 2011) (citation omitted).

Local Rule 56.1(a)(3) requires the moving party to provide "a statement of material facts as to which the moving party contends there is no genuine issue." *Cracco v. Vitran Exp., Inc.*, 559 F.3d 625, 632 (7th Cir. 2009). "The opposing party is required to file "a response to each

¹ Zurn also moved for summary judgment on Sloan's compensatory damages claims. The Court will address Zurn's damages arguments in a separate opinion.

numbered paragraph in the moving party's statement, including, in the case of any disagreement, specific references to the affidavits, parts of the record, and other supporting materials relied upon.'" *Id.* (citing N.D. Ill. R. 56.1(b)(3)(B)). Pursuant to the Local Rules, the Court will not consider any additional facts proposed in the nonmoving party's Local Rule 56.1(b)(3)(B) response, but must rely on the nonmovant's Local Rule 56.1(b)(3)(C) statement of additional facts. *See Ciomber v. Coop. Plus, Inc.*, 527 F.3d 635, 643 (7th Cir. 2008). The Court disregards Rule 56.1 statements and responses that do not cite to specific portions of the record, as well as those that contain factual or legal argument. *See Cracco*, 559 F.3d at 632 ("When a responding party's statement fails to dispute the facts set forth in the moving party's statement in the manner dictated by the rule, those facts are deemed admitted for purposes of the motion."); *Cady v. Sheahan*, 467 F.3d 1057, 1060 (7th Cir. 2006) ("statement of material facts did [] not comply with Rule 56.1 as it failed to adequately cite the record and was filled with irrelevant information, legal arguments, and conjecture"); *Bordelon*, 233 F.3d at 528 ("the requirements for responses under Local Rule 56.1 are "not satisfied by evasive denials that do not fairly meet the substance of the material facts asserted"); *Cichon v. Exelon Gen. Co., L.L.C.*, 401 F.3d 803, 809-10 (7th Cir. 2005) ("A district court does not abuse its discretion when, in imposing a penalty for a litigant's non-compliance with Local Rule 56.1, the court chooses to ignore and not consider the additional facts that a litigant has proposed.").

II. The Parties Failed to Comply With Local Rule 56.1

Both parties' Local Rule 56.1 statements contain significant problems. Both parties' "statements of material facts" contain legal arguments or legal conclusions. In addition, several of Zurn's responsive statements dispute "statements of material facts" that Zurn has already admitted in previous filings. As explained above, the purpose of Local Rule 56.1 statements is to

identify the relevant admissible evidence supporting the material facts, not to make factual or legal arguments. *See Sojka*, 686 F.3d at 398; *Cady*, 467 F.3d at 1060; *see also Judson Atkinson Candies, Inc. v. Latini-Hohberger Dhimantec*, 529 F.3d 371, 382 n.2 (7th Cir. 2008) (“It is inappropriate to make legal arguments in a Rule 56.1 statement of facts”). The parties’ failure to comply with Local Rule 56.1 has made the Court’s job of deciphering the material facts at issue in this patent case more difficult.

III. The Parties and the Court’s Jurisdiction

Plaintiff Sloan is a corporation organized under the laws of the State of Delaware with its principle place of business at 10500 Seymour Avenue, Franklin Park, Illinois 60131. (R. 555 & 608, Sloan’s Stmtnt. of Undisputed Facts², ¶ 1.) Sloan identifies itself as a leading manufacturer of plumbing products. (R. 204, Am. and Supp. Compl., ¶ 7.) Zurn Industries LLC is a limited liability company organized and existing under the laws of the State of Delaware, with its principle place of business at 1801 Pittsburgh Avenue, Erie, Pennsylvania 16514. (Sloan’s Stmtnt. of Undisputed Facts, ¶ 2.) Zurn Industries, Inc. was a corporation merged into Zurn Delaware Corporation with the surviving entity bearing the name “Zurn Industries, Inc.” Zurn Industries, Inc. was converted to a Delaware limited liability company changing its name to Zurn Industries, LLC on or about March 29, 2007. (Sloan’s Stmtnt. of Undisputed Facts, ¶ 3.) This Court has subject matter jurisdiction over Sloan’s patent claims under 28 U.S.C. §§ 1331 and 1338(a). (*Id.*, ¶ 4.) Venue is proper in this District pursuant to 28 U.S.C. 1391 and 1400(b).³ (*Id.*, ¶ 7.)

² Citations to “Sloan’s Stmtnt. of Undisputed Facts” refer collectively to Sloan’s Local Rule 56.1 Statement of Facts (R. 555) and Zurn’s Local Rule 56.1 Responsive Statement of Facts (R. 608). For purposes of clarity, the Court will use this citation reference where the fact preceding the citation is undisputed.

³ Zurn disputes that venue is proper in this District because it argues that Zurn Industries, Inc. ceased to exist on March 29, 2007, and thus, could not do business in Illinois at the time the action commenced. In its First Amended Answer, Zurn admitted that the Court has personal jurisdiction over Zurn LLC and admits that a “predecessor

IV. The Patent-In-Suit

The *Wilson* Patent is directed to a dual mode flush valve and handle assembly. (R. 562 & R. 617, Zurn’s Statement of Undisputed Facts⁴, ¶ 17.) The *Wilson* Patent “relates to flush valves for use with plumbing fixtures such as toilets, and more specifically to improvements in the bushing of the actuating handle assembly that will provide for user-selectable, dual mode operation of the flush valve.” (R. 546-6, *Wilson* Patent, col. 1, 6-10.) The improvement is a mechanism that allows a user to select one of two flush volumes based on the direction of actuation of the handle: a full flush volume to evacuate solid waste from the bowl or a reduced flush volume to remove liquid waste. (*Id.*, col. 1, 11-19, col. 2, 27-33.)

The *Wilson* Patent abstract discloses:

A dual mode flush valve includes a handle assembly having a handle, a bushing and a plunger. The bushing has a sleeve with a passage therethrough for mounting the plunger for sliding and tilting. The passage is defined by first and second partially overlapping bores that coincide at the inner end of the sleeve and are spaced one above the other at the outer end of the sleeve. The bores define a horizontal plunger travel axis and an angled plunger travel axis. Depending on which direction the user actuates the handle the plunger will travel along one of these axes. Travel along the angled axis will lower the plunger tip, allowing earlier clearance of a relief valve and a reduced flow through the flush valve compared to actuation with the plunger travel along the horizontal axis.

(*Id.*) Cross sectional representations of the preferred embodiment of the invention are reproduced below for reference. These figures show the handle (38), bushing (68), and plunger shank (80) for both a full flush (Figure 5) and for a reduced flush (Figure 6). (*See id.*, col. 3, 11. 15-20.)

company merged into Zurn Industries on or about March 31, 2007.” Zurn also admitted that “Zurn LLC has done business in this district.” (R. 287, ¶¶ 72-75.) Further, Zurn did not assert improper venue as an affirmative defense.

⁴ Citations to “Zurn’s Stmt. of Undisputed Facts” refer collectively to Zurn’s Local Rule 56.1 Statement of Facts (R. 562) and Sloan’s Responsive Local Rule 56.1(b)(3) Statement of Facts (R. 617). For purposes of clarity, the Court will use this citation reference where the fact preceding the citation is undisputed.

Figure 5

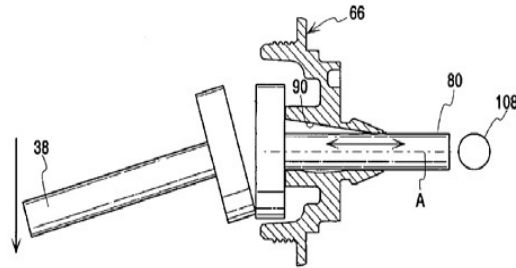
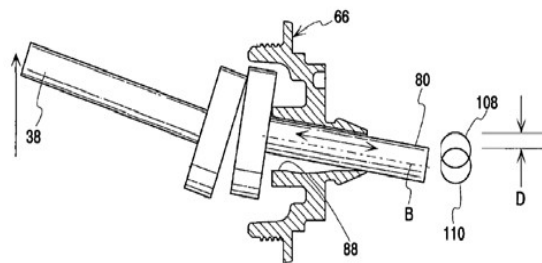


Figure 6



As depicted in Figure 5, in the full flush mode, the user pushes the handle (38) down, which causes the plunger shank (80) to slide along the horizontal main axis (A) and hit the relief valve stem at a location (108) that results in a full flush volume. (*See id.*, col. 5, 9-19.) As shown in Figure 6, in the reduced-volume flush mode, the user pulls the handle up, which causes the plunger shank (80) to tilt and slide along an angled axis (B), as compared to the horizontal axis, and hit the relief valve stem at a lower contact point (110). This results in a reduced opening of the relief valve, and thus a reduced volume of water. (*See id.*, col. 5, 19-34.)

Claim 1 is representative of the “dual mode flush valve claims. It recites:

A dual mode flush valve, comprising a body having an inlet and an outlet, a valve seat between said inlet and outlet, a valve member movable to a closing position on said valve seat to control water flow between said inlet and outlet, a pressure chamber defined in said body above said valve member, a relief valve mounted on the valve member for movement between seated and unseated positions which close and open the pressure chamber, respectively, a handle assembly mounted on the body and including an actuatable handle, a bushing having a passage defined therethrough and a plunger slidably and tiltably mounted in said bushing passage, the plunger having an outer end in the engagement with the handle and an inner

end engageable with the relief valve, the plunger being movable to unseat the relief valve, the bushing passage defining both a first axis of plunger travel and a second axis of plunger travel which is angled with respect to the first axis of plunger travel, wherein tilting of the handle in a first direction moves the plunger along the first axis of plunger travel providing a first flush volume of water adequate to evacuate solid waste and tilting of the handle in a second direction tilts the plunger and moves the plunger along the second axis of plunger travel providing a second flush volume of water adequate to evacuate liquid waste.

(*Id.*, Reexam. Cert., col. 1, 31-54.) Claim 12 is representative of the “system for operating a water flush valve” claims. It recites as follows:

A system for operating a water flush valve in a plurality of user selectable flush volume modes including a liquid waste removal mode and a solid waste removal mode, comprising a user handle operable in at least a first and second direction to cause a face plate to pivot about a plurality of portions of the face plate; and the face plate of the system coupled to the user handle and constructed to respond to handle motion by at least the following: (1) motion in a first handle direction of the user handle causing the face plate to pivot about a first face plate portion of the face plate moving in a first face plate direction and a coupled lower portion of a plunger head and coupled shank remaining substantially centered on a horizontal axis of travel such that an end view of the shank remains substantially centered on the horizontal axis of travel, thereby releasing a first flush volume of water for solid waste flushing purposes in the solid waste removal mode and (2) motion in a second handle direction of the user handle causing the face plate to pivot about a second face plate portion of the face plate moving in a second face plate direction and a coupled upper portion of the plunger head and the coupled shank displaced away from a center of the horizontal axis of travel such that an end view of the shank is displaced from the horizontal axis of travel, thereby releasing a second flush volume of water adequate for liquid waste flushing purposes in the liquid waste removal mode.

(*Id.*, col. 1, 56 through col. 2, 13.) Claim 18 is representative of the “retrofit system for a flush valve system” claims. It recites as follows:

A retrofit system for a flush valve system which can provide at least two volumes of water during operation, a first flush volume required for removal of solid waste and a second flush volume required for removal of liquid waste, comprising: a user handle and coupled face plate; a bushing portion of a valve system having a bushing passage to receive a plunger, the plunger engageable with the user handle face plate at a first end and the bushing passage configured to accommodate a tilting of the first end of the plunger and a pivoting of the plunger about a pivot point defined within the bushing passage; and the user handle operable in at least a first direction and a second direction wherein actuation of the user handle in the

first direction causing the plunger to move laterally through the bushing passage causing release of the first flush volume of water for removal of solid waste and actuation of the user handle in the second direction causing the plunger to tilt about the point within the bushing passage and to move through the bushing passage causing release of a second flush volume of water for removal of liquid waste.

(*Id.*, col. 2, 15-36.)

V. Prosecution and Reexamination History of the *Wilson* Patent

A. Prosecution History

Sloan filed Application No. 11/211,273, which ultimately issued as the *Wilson* Patent, with the United States Patent and Trademark Office (“USPTO”) on August 25, 2005. (Sloan Stmtnt. of Undisputed Facts, ¶ 8.) John R. Wilson is the inventor of the *Wilson* Patent. (*Id.*, ¶ 10.) The application contained 14 claims, with independent claims 1, 7, 10 and 12. (R. 314-3 at JA0212-32.) On April 7, 2006, Sloan filed a preliminary amendment, which, among other things, added new claims 15-31. (*Id.* at JA0182-92). In an Office Action mailed on February 18, 2009, the examiner rejected claims 2, 3, 16, 21-25, and 30, which referred to a “first bore” and a “second bore” in describing the bushing passage, as indefinite under 35 U.S.C. § 112. (*Id.* at JA0133.) The examiner noted that it was “unclear . . . how the first and second bore can be two different bores since it appears that the plunger passes through only a single bore,” and further explained that “[d]escribing a single bore as multiple bores renders the claims indefinite.” (*Id.*) In addition, the examiner also indicated that he would allow claims 16 and 30 if Sloan rewrote them to overcome the rejection under 35 U.S.C. § 112. (*Id.* at JA0134.) Sloan replied on April 22, 2009, in which it added claims 35-41 and, among other things, amended claims 2, 3, 16, 21-25, 29, and 30 to “clarify the description of the passage by removing the term ‘bore.’” (R. 314-1 at JA0100.) Sloan represented that it made the amendments to “overcome the § 112 rejection.” (*Id.* at JA0100-01.) The ‘635 Patent issued on October 27, 2009. (*Id.* at JA0001.)

B. Reexamination History

On September 17, 2010, Zurn filed a request for ex parte reexamination of claims 1, 4-12, 14, 18, 19, 28-31, 33 and 34 of the '635 Patent, alleging that a substantial new question of patentability existed. (R. 314-13 at JA0936-1033.) In particular, Zurn requested reexamination of the '635 Patent in view of the following prior art: U.S. Patent No. 3,279,742 ("Billeter"); U.S. Patent Application No. 2006/0033060 ("Funari"), ASME A112.19.14-2001, and U.S. Patent No. 4,134,570 ("Walker"). (*Id.* at JA0937.) The examiner granted Zurn's request. (R. 314-12 at JA0871-880; R. 314-11 at JA0734.)

In an Office Action mailed on January 10, 2011, the examiner rejected claims 1, 5, 7, 8, 12, 14, 18, 19, and 31 and confirmed the patentability of claims 4, 6, 9, 28-30, and 34. (R. 314-11 at JA0733-62.) Specifically, the examiner rejected claims 1, 5, 7, 8, 12, and 14 under 35 U.S.C. § 102(b) as anticipated by Billeter. (*Id.* at JA0739-42.) The examiner also rejected claims 18, 19, and 31 under 35 U.S.C. § 102(b) as anticipated by Billeter, or, in the alternative, as obvious under 35 U.S.C. § 103(a) over Billeter. (*Id.* at JA0742-43.) Finally, the examiner rejected claims 1, 5, 7, 8, 12, 14, 18, 19, and 31 under 35 U.S.C. § 103(a) as obvious over Billeter in view of Walker. (*Id.* at JA0743-49.) The examiner interpreted Billeter as "inherently a dual mode flush valve." (*See id.* at JA0740-42; JA0745-48.) The examiner also interpreted Walker as disclosing "a flush valve with a screw [] to limit the motion of the handle [] which results in a lower flush volume." (*Id.* at JA0745-46, 0749.)

During an interview with the examiner on March 31, 2011, the examiner "expressed that [claim 1] may benefit from additional language to clarify that the claimed structure is related to the dual mode concept set forth in the preamble." (R. 314-5 at JA0386.) Sloan, in a Supplemental Amendment and Reply filed on April 8, 2011, amended claim 1 to "explicitly

recite[] language linking the first and second axes of plunger travel to a first flush volume and second flush volume, respectively.” (*Id.*) Sloan further stated that “it would be understood that the first flush volume and second flush volume are sufficiently different so as to effectuate dual flush modes, that is a dual flush mode wherein one flush mode provides a flush volume adequate for liquid evacuation and another flush mode provides a flush volume of greater volume adequate for solid (or liquid) evacuation.” (*Id.*)

Sloan further responded to the examiner’s rejections on April 7, 2011, amending claims 12 and 18 to include language directed to “user selectable flush volume modes” and designating “a first flush volume” relating to removal of solid waste and “a second flush volume” relating to removal of liquid waste. (R. 314-5 at JA0392-422.) Sloan also proposed new claims 36-46. (*Id.* at JA0394-97.) In responding to the Billeter reference, Sloan stated that “Billeter discloses only a conventional single mode flush valve,” whereas a person of ordinary skill in the art “would understand a ‘dual mode flush valve’ to be one that permits a user deliberately to select between two distinct modes of flushing a fixture, either a reduced flush volume mode for evacuating liquid waste or a full flush volume mode for both solid and liquid waste.” (*Id.* at JA0401 (emphasis in original).) Further, Sloan stated that in a dual mode flush system, “selection of one of the flush modes results in a flush volume of water being flushed that may vary about the selected flush volume due to tolerances and variances in the flush valve and the fixture (as noted below, such is contemplated by the relevant ASME standards).” (*Id.*) In addition, Sloan provided that the “reduced flush volume is insufficient to effectively evacuate solid waste but provides water savings over a single flush mode designed to reliably provide sufficient water to evaluate solid waste (and thus wasting substantial water when only liquid waste removal is needed).” (*Id.*) Sloan concluded that “one of ordinary skill in the art would

understand the term ‘dual mode’ in regard to flush valves to correspond to the above description,” referencing Sloan’s statements above. (*Id.*)

In response to the examiner’s concerns, Sloan also submitted a declaration from Mr. Julius Ballanco (the “Reexamination Declaration”). In his Reexamination Declaration, Mr. Ballanco concluded that “a dual mode flush means: having a user selectable specific full flush volume for removing solid and liquid waste from the water closet and a specific lower flush volume that is used to remove the liquid waste.” (*Id.* at JA0479.) Mr. Ballanco discussed Billeter, stating that it “does not describe any large tolerances between the diameter of the plunger [] and the diameter of the handle bushing [],” and that “movement of the plunger in [Billeter] produces a single flush volume and certainly is not intended to provide a dual mode flush valve.” (*Id.* at JA0481.) The Reexamination Declaration further characterized Billeter as producing “a single flush volume when the handle was operated in either the down or up orientation” which means that “a dual mode flush was not an inherent part of [Billeter].” (*Id.* at JA0483.) Mr. Ballanco’s Declaration also discussed industry standards for various flush volumes. (*Id.* at JA0476-79.)

The PTO mailed a Notice of Intent to Issue Ex Parte Reexamination Certificate on July 22, 2011. (R. 314-3 at JA0249-59.) In the “Statement of Reasons for Patentability and/or Confirmation,” the examiner found that the amendment to the claims adding “that the first and second flush volumes were for removing solid waste and liquid waste” is a claim limitation which “give[s] the preamble breath and life.” (*Id.* at JA0253.) Thus, the examiner concluded that the “dual mode” claim term has patentable weight. (*Id.*) The examiner observed that the 2003 ASME Dual Flush Devices for Water Closets defines dual flush as “a mechanism which allows a full volume or a reduced volume,” and that it provides that the “reduced volume” is a

30% reduction in the water volume. (*Id.*; *see also* R. 314-8 at JA0545-58, 2003 ASME Dual Flush Devices for Water Closets, A112.19.10-2003.) Additionally, the examiner stated that the inherent flush volume differentials in the Billeter reference do not meet the definition of a dual mode flush valve. (*Id.*)

In addition, the examiner found claims 1, 12, 18 and 36 patentable over Billeter and Walker due to the requirement that the claimed invention’s plunger is “able to move in a horizontal axis of travel for one flush mode (full volume)” and is “tiltable for the other flush volume (reduced volume).” (R. 314-3 at JA0253-54.) The examiner also found the claimed invention patentable over Funari, Billeter, and Walker based on the fact that it has “at least one axis of plunger travel and the second axis of plunger travel” and a “plunger [that] is tiltable.” (*Id.* at JA0254.) In addressing the bushing passage, the examiner stated that “Billeter does not disclose the first opening including extension portions joining the upper and lower arcuate portions,” and further stated that “a circular opening includes an upper and a lower arcuate portion, but does not include a pair of extensions.” (*Id.* at JA0256-57.) The PTO issued an Ex Parte Reexamination Certificate on September 27, 2011. (*Id.* at JA0240.)

VI. The Court’s Claim Construction Opinion

On August 28, 2012, the Court held a claim construction hearing. After the hearing, the Court construed the claims as follows:

Claim Term or Phrase	Court’s Construction
“dual mode flush valve”	A water conservation valve that permits a user deliberately to select between two distinct modes of flushing a fixture: either a reduced flush volume mode adequate to evacuate liquid waste or a full flush volume mode adequate to evacuate solid waste.
“a first flush volume of water . . . and . . . a second flush volume of water”	A first volume of water that differs from a second volume of water.

“plunger mounted for sliding and tilting”	Mounted so the plunger is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis.
“tilting the inner end of the plunger”	Tilting the inner end of the plunger so that the plunger is at an angle to the horizontal plunger travel axis.
“axis of plunger travel” –or– “bushing passage defining both a first axis of plunger travel and a second axis of plunger travel which is angled with respect to the first axis of plunger travel”	axis of plunger travel means “axis on which the plunger travels” and “bushing passage defining both a first axis of plunger travel and a second axis of plunger travel which is angled with respect to the first axis of plunger travel” requires no construction
“displaced away from a center of the horizontal axis of travel such that an end view of the shank is displaced from the horizontal axis of travel”	That viewed when facing the end of the plunger shank, the end of the plunger shank is not substantially centered on the horizontal plunger travel axis.
“tilted portion” (of the bushing passage)	Portion with a tilted wall.
“arcuate portion”	Portion that is curved like a bow.
“extension portions”	Portions that extend from and join an end of the upper arcuate portion to an end of the lower arcuate portion.

SUMMARY JUDGMENT STANDARD

Although this is a patent case that is appealable to the Federal Circuit, Seventh Circuit law applies to procedural summary judgment issues. *See, e.g., Shum v. Intel Corp.*, 633 F.3d 1067, 1076 (Fed. Cir. 2010) (“We review grants of summary judgment ... under the law of the regional circuit, since they present procedural issues not unique to patent law.”) (citing *Koninklijke Phillips Elects. N.V. v. Cardiac Sci. Operating Co.*, 590 F.3d 1326, 1332 (Fed. Cir. 2010)). Summary judgment is appropriate “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P.

56(a). A genuine dispute as to any material fact exists if “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248, 106 S. Ct. 2505, 2510, 91 L. Ed. 2d 202 (1986).

In deciding summary judgment motions, “facts must be viewed in the light most favorable to the nonmoving party only if there is a ‘genuine’ dispute as to those facts.” *Scott v. Harris*, 560 U.S. 372, 380, 127 S. Ct. 1769, 167 L. Ed. 2d 686 (2007). The party seeking summary judgment has the initial burden of establishing that there is no genuine dispute as to any material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 106 S. Ct. 2548, 91 L. Ed. 2d 265 (1986). After “a properly supported motion for summary judgment is made, the adverse party ‘must set forth specific facts showing that there is a genuine issue for trial.’” *Anderson*, 477 U.S. at 255 (citation omitted). “[D]istrict courts presiding over summary judgment proceedings may not weigh conflicting evidence or make credibility determinations, both of which are the province of the jury.” *Omnicare, Inc. v. UnitedHealth Grp., Inc.*, 629 F.3d 697, 704-05 (7th Cir. 2011) (internal citations omitted).

ANALYSIS

I. Direct and Literal Infringement

Zurn moves for summary judgment on Sloan’s claim of direct infringement. Zurn argues that Sloan cannot establish that the accused devices literally infringe any of the asserted claims in the *Wilson* patent. In addition, Zurn argues that Sloan cannot use the doctrine of equivalents to establish infringement. Sloan also cross-moves for summary judgment on its claim of direct and literal infringement. Specifically, Sloan argues that it is entitled to summary judgment that Zurn directly and literally infringes claims 1, 4, 5, 6, 10, 11, 19, 29, 30, and 31 of the *Wilson* patent.

For the following reasons, the Court denies both parties' motions for summary judgment on direct infringement.

Direct infringement exists when one "without authority makes, uses, offers to sell, or sells" a patented product or process within the United States. 35 U.S.C. § 271(a). "To prove direct infringement, the plaintiff must establish by a preponderance of the evidence that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents." *Spansion, Inc. v. ITC*, 629 F.3d 1331, 1349 (Fed. Cir. 2010).

"Determining literal infringement is a two-step process: the 'proper construction of the asserted claim and a determination whether the claim as properly construed reads on the accused product or method.'" *ActiveVideo Networks, Inc. v. Verizon Comm'cns*, 694 F.3d 1312, 1319 (Fed. Cir. 2012) (quoting *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1330 (Fed. Cir. 1999)). While the first step is a question of law for the Court, the second step is a question of fact. *Id.* "To prove literal infringement, the patentee must show that the accused device contains every limitation in the asserted claims." *Alcohol Monitoring Sys., Inc. v. Actsoft, Inc.*, Fed. Appx. 294, 300 (Fed. Cir. 2011) (quoting *Mas-Hamilton Grp. v. LaGard, Inc.*, 156 F.3d 1206, 1211 (Fed. Cir. 1998)). "If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law." *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000) (citation omitted).

"Under the doctrine of equivalents, 'a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed element of the patented invention.'" *SanDisk Corp. v. Kingston Tech Co., Inc.*, 695 F.3d 1348, 1363 (Fed. Cir. 2012) (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem Co.*, 520 U.S. 17, 21, 117 S. Ct.

1040, 137 L. Ed. 2d 146 (1997)). “To prove infringement under the doctrine, the patentee must show that the accused device ‘performs substantially the same function in substantially the same way to obtain the same result.’” *Textron Innovations, Inc. v. Am. Eurocopter Corp.* 498 Fed. Appx. 23, 31, 2012 WL 3871717 (Fed. Cir. 2012) (quoting *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608, 70 S. Ct. 854, 94 L. Ed 1097 (1950)).

A. Julius Ballanco

Zurn argues that it is entitled to summary judgment on direct infringement because Sloan’s infringement expert, Julius Ballanco, has “either misunderstood or misapplied the Court’s claim construction with respect to the ‘axis of plunger travel’ limitation and the claimed modifier ‘providing a [first or second] flush volume of water’ because, he asserts, a portion of the plunger travel path can constitute the “axis of plunger travel.” (R. 574, Zurn Mem. at 10, 13-14.) Zurn contends that the asserted claims require a “first [horizontal] axis of plunger travel providing a first [full] flush volume of water” and a “second [angled] axis of plunger travel providing a second [reduced] flush volume of water.” (*Id.* at 10.) Zurn asserts that, “by definition, a portion of the plunger travel path cannot be an axis of plunger travel providing a full or reduced flush volume because that partial travel path never results in a full or reduced flush volume.” (*Id.* at 12.) The Court, however, already has ruled on and rejected this argument. (R. 663, Ballanco *Daubert* Opinion at 9-14.) For the reasons articulated in the Court’s Memorandum Opinion and Order on the Ballanco *Daubert* challenge, Zurn’s argument fails.

B. Axes of Plunger Travel

In addition, Zurn argues that it is entitled to summary judgment on direct infringement because the data shows its accused product does not have a horizontal or angled axis of plunger travel. Sloan counters that it is entitled to summary judgment on direct infringement because the

Zurn plunger is capable of traveling horizontally for at least some portion of its travel during the full flush mode, and is capable of traveling in a straight line at an angle to horizontal for at least some portion of its travel during the reduced flush mode. (R. 556, Sloan Mem. at 11.)

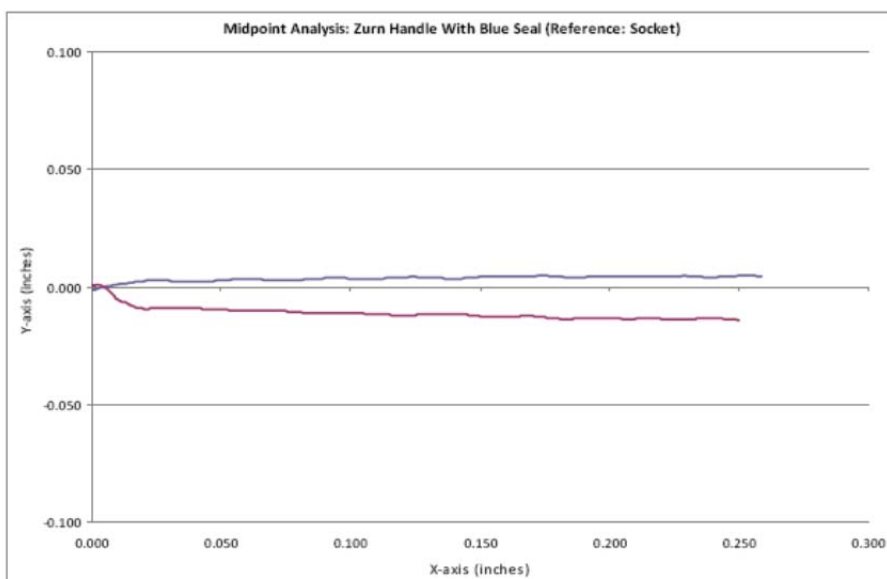
Sloan argues that there is no dispute regarding the existence in the accused products of the elements in claims 1, 4-6, 10-11, 19, and 29-31 other than the limitation that the plunger “is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis.” (*Id.* at 4.) According to Sloan, Zurn has admitted that its accused products include all other elements of claims 1, 4-6, 10-11, 19, and 29-31 in its non-infringement contentions and in its responses to Sloan’s requests for admission. (*Id.* at 19; *see also* Sloan’s Stmt. of Undisputed Facts, ¶¶ 27-49.) In support, Sloan provided a chart identifying each claim element and the corresponding citation to Zurn’s admission in either Sloan’s Statement of Undisputed Facts or in alternative record cites. (Sloan Mem. at 20-27.)

Although Zurn disputes many of the relevant Local Rule 56.1 facts cited in Sloan’s chart, Zurn’s objections are improper because Zurn has already admitted the statement in previous filings. Zurn, for example, disputes paragraphs 27-39 of Sloan’s Statement of Undisputed Facts on the ground that the P6000 Zurn handle assembly model is not a flush valve. (R. 608, ¶¶ 27-39.) Zurn’s Final Non-Infringement Contentions, however, moot this objection. In that document, Zurn admits that notwithstanding that the P6000 is a handle assembly and not a flush valve, “when the accused device is installed into a flush valve body, this element would be present.” (R. 448, Zurn’s Final Non-Infringement Contentions, ¶ 11.) After reviewing the underlying record citations in Sloan’s chart, the Court finds that Zurn’s only substantive objection to the relevant claim elements is that the accused Zurn products do not meet the claim limitation that the plunger is “capable of sliding along the horizontal axis and tilting and sliding

along an axis of plunger travel that is at an angle to the horizontal axis.” Further, Zurn does not address, let alone dispute, Sloan’s chart and assertion that “Zurn concedes all of the other elements of its direct infringement of claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* Patent after the issuance of that patent.” (Sloan Mem. at 18.)

With respect to the “axis of plunger” limitation, the parties and their experts disagree on whether the Zurn plunger travels along the horizontal axis of plunger in the “full flush” mode and whether it travels along an angled axis of plunger in the “reduced flush” mode.

Sloan’s infringement expert, Mr. Ballanco, opines that “the plunger of the accused Zurn products travels in a straight, horizontal line for a large portion of its travel in the ‘full flush’ mode, and it travels in a straight line at an angle to horizontal for a large portion of its travel in the ‘reduced flush’ mode.” (R. 545, Ballanco Aff., ¶ 9.) Mr. Ballanco based this opinion, in part, on CAD modeling of the Zurn plunger travel that used a CMM (Coordinate Measuring Machine) capable of collecting measurement data as precise as ten-thousandths of an inch. (*Id.* ¶ 10.) To form his opinions, Mr. Ballanco relied on the following data, which he claims measures the travel of the midpoint of the plunger:

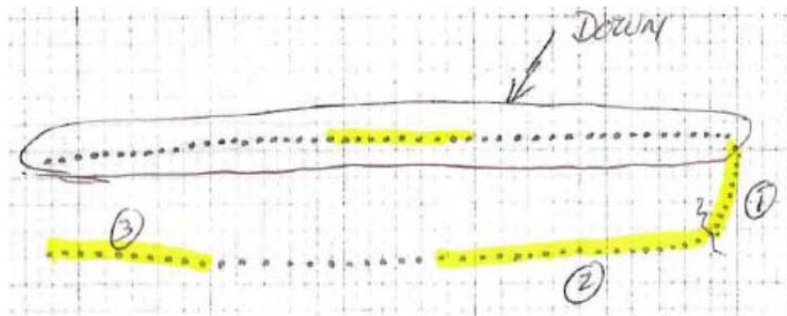


(*Id.*, ¶ 12.) In the above graph, the midpoint data for the “full flush” mode is reflected by the blue line and the midpoint data for the “reduced flush” mode is reflected by the red line. (Sloan Mem. at 16.)

Mr. Ballanco opines that if a portion of a path of plunger travel is less than 0.3° it is horizontal and if it is 1° or greater it is angled. (Zurn’s Statement of Undisputed Facts, ¶ 29.) Mr. Ballanco opined that in the “full flush” mode the “plunger tends to follow the upper bushing wall” which is at an angle of 0.213° and in the “reduced flush” mode the “plunger tilts and tends to follow the lower bushing wall which is at an angle of approximately 0.817° . (*Id.*, ¶ 26.) In his testing, Mr. Ballanco calculated the angle between data points 0.025” and 0.200” of the plunger path in the “full flush” mode in the above graph to be 0.47° . (*Id.*, ¶ 33.) Mr. Ballanco also calculated the angle between data points 0.065” and 0.084” in the “full flush” mode to be 0.22° . (*Id.*, ¶ 34.) Mr. Ballanco acknowledges that the angle between data points 0.079942” and 0.094834” in the “full flush” mode is 3.385° . (*Id.*, ¶ 35.) In addition, Sloan acknowledges that the angle of the plunger path in the “reduced flush” mode is 1.91° between data points 0.0128024” and 0.139955” and -0.063° between data points 0.114641 and 0.126546. (*Id.*, ¶ 38.) Thus, Mr. Ballanco found that there were portions of the plunger travel path in “full flush” mode that were angled, and portions that were horizontal.

Zurn’s infringement expert, Dr. Richard Magee, calculated the angle between data points 0.025” and 0.200” of the plunger travel path in the “full flush” mode to be 0.755° . (*Id.*, ¶ 30.) Mr. Ballanco acknowledged that an angle of 0.817 would be “significantly angled.” (R. 577-22, Ballanco I at 82.) Based on this data, Dr. Magee disagrees with Mr. Ballanco that the plunger travel path in the “full flush” mode is substantially horizontal. (R. 546-11, Magee Expert Rep., ¶¶ 59-60.) Dr. Magee also supervised and/or witnessed testing of Zurn flush valve handles that

resulted in plot diagrams. (*Id.*, ¶ 48.) Based on this testing, Dr. Magee opines that the Zurn plunger “travels along two different paths, neither of which are an angled axis of plunger travel nor a horizontal axis of plunger travel.” (*Id.*) An example of Dr. Magee’s plot diagrams of the Zurn plunger travel paths is depicted below:



(Sloan Mem. at 16.) According to Dr. Magee, the dots that are circled represent the Zurn plunger travel path in the “full flush” mode. (R. 557-1, Magee Dep. at 100:19-101:23.) Dr. Magee testified that the diagrams indicate that the plunger does not travel along a horizontal axis in the “full flush” mode and does not travel along an axis that is at an angle to the horizontal axis in the “reduced flush” mode. (*Id.*, 102:3-16) Dr. Magee further testified that the yellow highlighted portion of the circled dots “appear to be moving horizontal.” (Magee Dep. at 102:10-20.) In addition, Dr. Magee testified that the Zurn plunger travels along a horizontal path for at least some portion of its travel in full flush mode and along a path that is at an angle to horizontal for at least some portion of its travel in the “reduced flush” mode. (*Id.* at 116:10-19.) The Court considers this statement, however, in light of Dr. Magee’s testimony that one could find “a portion” of *any* path to be horizontal. (*Id.* at 106:8-16.).

Although Zurn’s expert admits that “a portion” of the plunger travel path meets the claim limitation in both the “full flush” and “reduced flush” modes, he contends that the axis of plunger travel is not horizontal in the “full flush” mode and is not at an angle to horizontal in the “reduced flush” mode. The question is whether his admission regarding “a portion” of the

plunger travel path conclusively establishes that the Zurn plunger “travels along the horizontal axis” in full flush mode and “along an axis of plunger travel that is at an angle to the horizontal axis” in the reduced flush mode. It does not. Based on the record before the Court, and when viewed in the light most favorable to Zurn, there is a question of fact as to whether the plunger in Zurn’s accused device “is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis” as defined in claims 1, 4-6, 10-11, 19, and 29-31.

C. Flexible Bushing

Zurn next contends that during reexamination of the *Wilson* patent, Sloan specifically argued that if the bushing of a handle is flexible, then “the plunger should not exhibit a horizontal axis of travel from either the upward or the downward flush.” (Zurn Mem. at 11.) Zurn further argues that Sloan’s experts have acknowledged that the accused devices, which contain a bushing made of Delrin, have a flexible bushing. (*Id.*) Thus, according to Zurn, the accused devices cannot have a horizontal axis of plunger travel and Zurn is therefore entitled to summary judgment.

1. Timeliness

Local Patent Rule (“LPR”) 3.1 states:

A party claiming patent infringement must serve on all parties ‘Final Infringement Contentions’ containing the information required by LPR 2.2 (a)-(h) within twenty-one (21) weeks after the due date for service of Initial Infringement Contentions. *Each party asserting invalidity or unenforceability of a patent claim shall serve on all other parties, no later than the same time that the Final Infringement Contentions are due, “Final Unenforceability and Invalidity Contentions” containing the information required by LPR 2.3 (b) and (c).”*

N.D. Ill. LPR 3.1 (emphasis added). LPR 3.4 provides that a party may amend its final unenforceability and invalidity contentions only by order of court “upon a showing of good

cause and absence of unfair prejudice to opposing parties made promptly upon discovery of the basis for the amendment.” N.D. Ill. LPR 3.4; *see also Fujitsu Ltd. v. Tellabs Ops. Inc.*, Nos. 08 C 3379, 09 C 4350 2012 WL 5444979, at *4 (N.D. Ill. Mar. 21, 2012). The purpose of these local patent rules is to “prevent a shifting sands approach to claim construction by forcing the parties to crystallize their theories of the case early in litigation.” *Fujitsu*, 2012 WL 5444979 at *4 (internal quotations omitted). A party’s showing of good cause must also show diligence in amending the contentions. *See O2 Micro Int’l Ltd. v. Monolithic Power Sys. Inc.*, 467 F.3d 1355, 1366 (Fed. Cir. 2006) (The “good cause” showing is not met “merely because new evidence was revealed during discovery” without also showing diligence in amending the contentions.) In particular, the Local Patent Rules require the moving party “to proceed with diligence in amending those contentions when new information comes to light in the course of discovery.” *Trading Techs, Int’l, Inc. v. BCG Partners, Inc.*, 10 C 715, 2011 WL 3946581 (N.D. Ill. Sept. 2, 2011). In showing diligence, the relevant inquiry is not when the party learned about the information, but when it could have made the discovery. *Thermapure, Inc. v. Giertsen Co. of Ill.*, 10 C 4724, 2012 WL 6196912 at *2 (N.D. Ill. Dec. 11, 2012).

Zurn never previously disclosed this “flexible bushing” argument. For the first time in its summary judgment brief, Zurn argues that its bushing is flexible and, thus, does not have a horizontal axis of plunger travel. Zurn never disclosed this non-infringement theory in its final contentions, never previously disclosed that its bushing was too flexible to allow a “horizontal axis of plunger travel,” and never raised this theory in any of its expert reports. Sloan did not have notice of this non-infringement argument. Further, Zurn failed to seek leave to amend its final non-infringement contentions to include this theory. It is now too late to do so.

Zurn does not dispute that it raises this argument for the first time in its summary judgment briefing and that it has failed to seek leave to amend its final non-infringement contentions. Zurn’s only response is that Sloan cannot complain about the untimeliness of its claim because Sloan did not disclose the flexing in Zurn’s accused devices’ bushing until April 2013. This argument, however, is unpersuasive. Zurn knows that its accused device contains a bushing made of Delrin. If it believed that the Delrin bushing was flexible, it did not need a statement from Sloan’s expert to advance this argument. Regardless, even if the Court credits Zurn’s assertion that it did not have notice of the material in the bushing in its product until April 5, 2013, Zurn still failed to seek leave to amend its non-infringement contentions between that time and when it filed its summary judgment motion – more than two months later.

2. Merits

Even if the Court permitted Zurn to pursue this untimely argument, Zurn is not entitled to summary judgment on its “flexible bushing” argument. This issue arose out of the 2011 reexamination proceedings. After Zurn submitted a Request for Ex Parte Reexamination of the *Wilson* patent, Zurn submitted a Declaration from Michael Funari, its former head of engineering. (R. 611-4, Funari Decl.) Mr. Funari’s declaration addressed prior art – the *Billeter* patent – which included a bushing made of Delrin®. On January 10, 2011, as part of the reexamination, the USPTO rejected claims 1, 5, 7, 8, 12, 14, 18, 19, and 31 under §102(b) as anticipated by, or under §103(a) as obvious over, the *Billeter* patent. (R. 611-5, Office Action.) In rejecting these *Wilson* patent claims, the Examiner understood Zurn’s argument to be that the *Billeter* plunger can travel along two axes because its bushing is flexible and the bushing passage is larger than the plunger, thus allowing for a slight tilting movement. (Id. at 6.)

In response to the Examiner's office action, Sloan argued that the *Billeter* bushing was not flexible because it was made of molded plastic such as Delrin® with a high degree of stiffness. In support, Sloan stated "nothing in the Billeter reference supports a conclusion that the bushing is 'flexible' ... the Billeter reference explicitly teaches the use of a material that one of ordinary skill in the art would understand to be rigid." (R. 611-6, Reexamination Amendment, at 20.) Sloan also specifically addressed Delrin® in the Reexamination Amendment, stating "the Billeter reference specifically mentions that Delrin® ... provides a high degree of stiffness ... in light of the Billeter reference, one of ordinary skill would not understand the bushing to be 'flexible' in any appreciable manner." (*Id.*)

The passage in Sloan's Reexamination Amendment upon which Zurn bases this argument is as follows:

If the bushing is "flexible," as the Examiner has interpreted, or if the bushing passage is sufficiently larger than the plunger, as is one of the Requestor's arguments, then the plunger should not exhibit a horizontal axis of travel from either the upward or downward flush. Thus, the Billeter reference would not teach the limitation of claim 12 where one of the axes of travel is substantially horizontal and the other axis is "tilted" with respect thereto.

(*Id.* at 24.) On July 22, 2011, the Examiner found Sloan's position regarding the flexibility of the *Billeter* bushing persuasive and determined that the *Billeter* patent does not allow the plunger to tilt. (R. 611-7, Notice of Intent to Issue Reexamination Certificate at 3-4.)

Zurn's new argument focuses on a statement made by Sloan during expert discovery that the Zurn bushing component "flexes ever-so-slightly (i.e., on the order of a few ten-thousandths of an inch) with the movement of the plunger." (R. 557-8, Ballanco Reply Rep. at 16.) Mr. Ballanco made that statement as part of his objection to Dr. Magee's calculation of the angle of the horizontal plunger travel path. (*Id.*) Sloan argues that while this slight flex is relevant to the precise angle calculations made by Dr. Magee and Mr. Ballanco of the Zurn plunger path, it is

not the same type of flexibility that Sloan discussed in the reexamination with respect to the *Billeter* bushing. (R. 616, Sloan Resp. at 12.) Sloan’s argument has merit. Sloan’s statement in the reexamination referred to the *Billeter* bushing, which does not have a tilted portion. Thus, as the Examiner understood it, the *Billeter* bushing would have to have sufficient flexibility for there to be two axes of plunger travel. The Examiner explicitly found that this was not the case. (Notice of Intent to Issue Reexam. Cert. at 3-4.)

Thus, at a minimum, Sloan has established that there is a question of material fact as to whether it has conceded that the Zurn bushing is “flexible” and, thus, that it does not exhibit a horizontal axis of plunger travel.

D. Doctrine of Equivalents

Sloan’s doctrine of equivalents position is directed to the “horizontal axis of plunger travel” limitation, which is incorporated in the “plunger mounted for sliding and tilting” claim limitation. (R. 446, Sloan’s Final Infr. Contentions at 50.) “Under the doctrine of equivalents, a ‘product or process that does not literally infringe upon the express terms of a patent may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.’” *SanDisk Corp. v. Kingston Tech. Co., Inc.*, 695 F.3d 1348, 1362 (Fed. Cir. 2012) (citing *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21, 117 S. Ct. 1040, 137 L. Ed. 2d 146 (1997)). To prove infringement under the doctrine, the patentee must show that the accused device “performs substantially the same function in substantially the same way to obtain the same result.” *Cephalon, Inc. v. Watson Pharms., Inc.*, 707 F.3d 1330, 1340 (Fed. Cir. 2013). Zurn argues that the Court should reject Sloan’s doctrine of equivalents argument because Sloan’s position (1) is barred by the doctrine of prosecution history estoppel; (2) is unsupported and improperly vitiates

a claim limitation; and (3) improperly results in a claim that reads on the prior art. The Court addresses each argument in turn.

1. Prosecution History Estoppel

Prosecution history estoppel may limit a patentee from using the doctrine of equivalents to establish infringement. *Festo Corp. v. Shoketsu Kinzoko Kogyu Kabushiki*, 344 F.3d 1359, 1366-67 (Fed. Cir. 2003). “A voluntary claim amendment – *i.e.*, one neither required by a patent examiner nor made in response to a rejection by an examiner for a stated reason – may give rise to prosecution history estoppel.” *Id.* at 1364, 1366. Whether prosecution history estoppel applies presents a question of law. *Id.* at 1367-68. “As a legal limitation on the application of the doctrine of equivalents, prosecution history estoppel is a matter to be determined by the court.” *Id.* at 1368 (citing *Warner-Jenkinson*, 520 U.S. at 39 n. 8). When an amendment “narrows the scope of the claims, and the amendment is adopted for a substantial reason related to patentability, the amendment gives rise to a presumption of surrender for all equivalents that reside in ‘the territory between the original claim and the amended claim.’” *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1291 (Fed. Cir. 2010) (citing *Festo Corp. v. Shoketsu Kinzoko Kogyu Kabushiki Co.*, 535 U.S. 722, 740 (2002)). “A district court must look to the specifics of the amendment and the rejection that provoked the amendment to determine whether estoppel precludes the particular doctrine of equivalents argument being made.” *Id.*

Zurn contends that because Sloan amended the claims and made arguments to overcome the prior art, Sloan is estopped from applying the doctrine of equivalents to the term “axis of plunger travel.” (Zurn Mem. at 15.) Zurn bases this position, in part, on its “flexible bushing” argument discussed above. Zurn argues that because of Sloan’s contentions during Reexamination regarding flexible bushing, Sloan cannot assert that either of the paths on which

the plunger in the accused devices travel are equivalent to a horizontal axis. (*Id.*) For the reasons discussed above (*see supra*, pp. 21-25), this argument fails.

Zurn also argues that Sloan’s amendments narrowed the scope of the claims by defining the claims in terms of how the plunger travels through the bushing, and not by geometry of the passage. (*Id.* at 16-17.) These amendments, Zurn argues, narrowed the scope of protection available to Sloan by adding limitations that were not present in the originally-filed claims and by distinguishing the claims from the prior art by narrowing arguments. (*Id.* at 17.)

In response, Sloan contends that the challenged equivalent relates to a claim limitation – “plunger mounted for sliding and tilting” – that was present in the originally filed claims 1 and 10 of the *Wilson* patent application. (Sloan’s Responsive Stmtnt. of Undisputed Facts⁵, ¶ 118.) Sloan did not substantially amend this claim during prosecution or reexamination. Indeed, it only amended the phrase “plunger mounted for sliding and tilting” by replacing it with “plunger slidably and tiltably mounted.” (R. 611-8, Claim Amendment at 17.) The parties agree that these phrases have the same meaning. (R. 369, Rev. Joint Claim Construction at 4 n. 4.)

The challenged equivalent for purposes of Zurn’s prosecution history estoppel argument, however, is not the “plunger mounted for sliding and tilting.” The equivalent at issue is the “axis of plunger travel” claim limitation, which Sloan substantially amended during prosecution and reexamination of the ‘635 patent. In particular, Sloan amended claim 1 in response to the Examiner’s rejection during prosecution as follows:

the bushing passage defining both a ~~horizontal~~ first axis of plunger travel and a[n] ~~angled~~ second axis of plunger travel which is angled, nonparallel with respect to the first axis of plunger travel, wherein tilting of the handle in a first direction moves the plunger along the first axis of plunger travel and tilting of the handle in a

⁵ Citations to “Sloan’s Responsive Stmtnt. of Undisputed Facts” refer collectively to Sloan’s Local Rule 56.1(b)(3) Responsive Statement (R. 617) and Zurn’s Reply to Sloan’s Additional Statement of Material Facts (R. 630).

second direction tilts the plunger and moves the plunger along the second axis of plunger travel.

(Zurn's Stmt. of Undisputed Facts, ¶ 77) (additions in underline.) During reexamination, Sloan amended claim 1 further to state

wherein tilting of the handle in a first direction move the plunger along the first axis of plunger travel providing a first flush volume of water adequate to evacuate solid waste and tilting of the handle in a second direction tilts the plunger and moves the plunger along the second axis of the plunger travel providing a second flush volume of water adequate to evacuate liquid waste.

(*Wilson Patent Reexam. Cert.*, col. 1, 47-54.) These amendments narrowed the scope of claim 1 by describing the axes in terms of how the plunger travels through the bushing passage along the axes of plunger travel and further describing the result of tilting the handle in each direction. Having established that Sloan made narrowing amendments in response to the Examiner's rejection, the question for purposes of prosecution history estoppel is whether these amendments preclude Sloan from arguing that Zurn's accused products infringe under the doctrine of equivalents. They do not.

Applying prosecution history estoppel to the amendments made to claim 1, Sloan is estopped from arguing the doctrine of equivalents to the extent it relies on the geometry of the accused product's bushing passage and to the extent that the plunger of Zurn's accused products does not move along the axes of plunger travel providing flush volumes of water. As described above, because an underlying question of fact exists as to whether the plunger in Zurn's accused device tilts and slides along an axis of plunger travel as defined in the '635 patent, Zurn is not entitled to summary judgment on the basis of prosecution history estoppel.

2. Vitiation

Zurn next argues that Sloan’s application of the function-way-result test improperly vitiates the “horizontal axis of plunger travel” and “angled axis of plunger travel” claim terms and would read on the prior art. (Zurn Mem. at 17.) “There is no set formula for determining whether a finding of equivalence would vitiate a claim limitation, and thereby violate the all limitations rule.” *Freedman Seating Co. v. American Seating Co.*, 420 F.3d 1350, 1359 (Fed. Cir. 2005). “Courts must consider the totality of the circumstances of each case and determine whether the alleged equivalent can be fairly characterized as an insubstantial change from the claimed subject matter without rendering the pertinent limitation meaningless.” *Id.* “Vitiation is not an exception to the doctrine of equivalents, but instead a legal determination that ‘the evidence is such that no reasonable jury could determine two elements to be equivalent.’” *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349 (Fed. Cir. 2012) (citing *Warner-Jenkinson*, 520 U.S. at 39 n. 8).

Zurn asserts that because Sloan made an affirmative choice to claim the term “axis”, when it could have claimed the arguably broader term “path,” Sloan cannot utilize the doctrine of equivalents. (Zurn Mem. at 17.) In addition, Zurn argues that Sloan cannot assert the doctrine of equivalents by generically stating the plunger in the Zurn product travels in a similar manner to achieve a similar result, but rather must present particularized evidence with regard to each of the function, way, and result. Zurn further argues that Sloan’s expert provides no data or opinion that would tend to support Sloan’s theory of equivalence. (*Id.* at 19.) Finally, Zurn contends that only claim 19 uses the limitation “substantially horizontally” and that the use of different words in separate claims is presumed to impart a different scope. (*Id.*) For the following reasons, the Court disagrees with each of Zurn’s arguments.

First, it is true that Sloan made an affirmative choice to claim the term “axis” and instead could have claimed the term “path.” Zurn, however, does not provide any evidence that Sloan’s doctrine of equivalents position is that a “path is substantially equivalent to an axis.” (Zurn Mem. at 17.) In fact, Sloan’s doctrine of equivalents position does not mention the word “path” and, instead, asserts that “Zurn’s accused products have a plunger capable of sliding along a substantially horizontal axis that has substantially the same function as a plunger capable of sliding along a horizontal axis ...” (R. 446, Sloan’s Final Infr. Contentions at 50.) In addition, Zurn does not provide any support for its argument that the term “axis” is more narrow than “path.” Sloan is correct that the Court has not construed either “axis” or “path,” therefore, the Court cannot determine that the term “axis” is narrower in scope than the term “path.” Nor can the Court conclusively determine whether “axis” would have an equivalent meaning to the term “path.” As a result, Sloan’s choice to claim an “axis” does not warrant summary judgment in favor of Zurn on Sloan’s doctrine of equivalents argument.

Second, Sloan has not made only superficial allegations that Zurn’s accused products meet the function-way-result test for application of the doctrine of equivalents. As described above, Sloan has provided, for example, detailed CAD models of the accused product’s path of plunger travel, including calculations of the plunger’s position and the angle of each of the accused product’s flush modes. While Zurn and Sloan’s respective experts dispute these models and calculations, the evidence supplied by Sloan plausibly supports its theory of infringement under the doctrine of equivalents. Material issues of fact remain, however, as to whether Zurn’s accused product satisfies the function-way-result test.

Finally, Zurn’s claim differentiation argument fails. Sloan argues that Zurn misapplies the doctrine of claim differentiation, specifically pointing out that claim 19 depends from claim

18, which includes several claim elements that are not recited in any other claim. The Court agrees with Sloan that, to the extent Zurn relies on the “substantially horizontal” claim limitation in claim 19 to limit the term “horizontal” in claim 1, Zurn has misused the doctrine of claim differentiation. Several differences in meaning and scope exist between claim 19 and claim 1, including, for example, that claim 1 describes “a dual mode flush valve” and claim 19 describes “a retrofit system for a flush valve system.” Because of these differences, and because claim 19 is not dependent on claim 1, the Court need not presume that the use of “substantially horizontal” in claim 19 dictates a more strict construction of “horizontal” in claim 1 for purposes of the doctrine of equivalents. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380-81 (Fed. Cir. 2006) (stating, in a scenario involving claims that are independent of one another, “[d]ifferent claims with different words can, of course, define different subject matter within the ambit of the invention.”).

3. Broadening of the Term “Horizontal Axis of Plunger Travel”

Zurn next seeks summary judgment on the grounds that Sloan’s assertion of the doctrine of equivalents is impermissible because any broadening of the term “horizontal axis of plunger travel” to cover the non-linear path seen in the accused devices would read on the prior art. (Zurn Mem. at 17.)

In support of this argument, Zurn points to the *Whiteside* patent that was cited by the Examiner during prosecution of the *Wilson* patent as evidence that Sloan’s doctrine of equivalents argument would expand the *Wilson* patent to read on prior art. (R. 631, Zurn Rep. at 10.) Specifically, Zurn points to the Examiner’s statement that “the patent to Whiteside had every claim limitation recited in the pending claims except for the plunger ‘traveling along a first axis and a second axis as well as a non-symmetrical bushing passage.’” (*Id.*)

The Court disagrees that application of the doctrine of equivalents to the “horizontal axis of plunger travel” claim term would cause the claim to read on prior art *Whiteside* patent. Application of the doctrine of equivalents would not vitiate the requirement of the claim that the plunger moves along a first axis and a second axis of plunger travel. These claimed axes remain distinct under any proper application of the doctrine of equivalents. Thus, both axes of plunger travel are required to infringe the claims of the ‘635 patent. Therefore, as the Examiner asserted, the patent to *Whiteside* could not read on the claims of the ‘635 patent as currently amended because the *Whiteside* patent does not have the limitation of “traveling along a first axis and a second axis.” (*Id.*) Because Zurn has failed to point to any additional prior art flush valves that application of the doctrine of equivalents would allegedly cause the ‘635 patent to read on, the Court declines to address Zurn’s further arguments in abstraction. For these reasons, the Court denies Zurn’s motion for summary judgment on Sloan’s doctrine of equivalents argument.

For all of the foregoing reasons, the Court denies both Sloan’s and Zurn’s cross-motions for summary judgment on direct infringement.

II. Zurn’s Counterclaim and Affirmative Defense that Claims 1, 4-8, 10-11, 19, 28-31 and 33-34 are Invalid Under §§ 102 or 103

“Because patents are presumed valid, *see* 35 U.S.C. § 282, the challenging party must prove invalidity by clear and convincing evidence.” *Microsoft Corp v. i4i Ltd. P’ship*, - U.S. -, 131 S. Ct. 2238, 2245, 180 L. Ed. 2d 131 (2011); *Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1351-52 (Fed. Cir. 2012) (citing *Microsoft*, 131 S. Ct. at 2242). Sloan moves for summary judgment on Zurn’s counterclaim and affirmative defense that claims 1, 4-8, 10-11, 19, 28-31, and 33-34 are invalid under §§ 102 or 103. Sloan contends that Zurn has failed to provide either contentions or an expert report that assert that these claims are invalid as anticipated or obvious,

and, therefore, that Zurn has abandoned those defenses and is precluded from introducing any evidence at trial on those subjects.

A. Anticipation

“If the claimed invention was ‘described in a printed publication’ either before the date of invention, 35 U.S.C. §102(a), or more than one year before the U.S. patent application was filed, 35 U.S.C. § 102(b), then that prior art anticipates the patent.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008). “[I]nvalidity by anticipation requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000); *see also Old Reliable Wholesale, Inc. v. Cornell Corp.*, 635 F.3d 539, 544 (Fed. Cir. 2011) (“anticipation requires that all of the claim elements and their limitations are shown in a single prior art reference.”) (citation omitted). Even though § 102 “refers to ‘the invention’ generally, the anticipation inquiry proceeds on a claim-by-claim basis.” *Finisar Corp.*, 523 F.3d at 1334 (citing *Hakim v. Cannon Avent Group, PLC*, 479 F.3d 1313, 1319 (Fed. Cir. 2007)). Anticipation is a question of fact. *Id.*

B. Obviousness

“A patent may not issue ‘if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068 (Fed. Cir. 2012) (citing 35 U.S.C. § 103(a)(2006)). Obviousness is a question of law based on underlying factual findings: (1) the scope and content of the prior art;

(2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective considerations of nonobviousness.” *Id.* Objective considerations of nonobviousness include, among other factors, the “commercial success of the patented invention.” *Id.* at 1075.

C. Zurn’s Failure to Assert Anticipation or Obviousness

Zurn does not dispute that it has not asserted invalidity contentions of anticipation or obviousness against claims 1, 4-8, 10, 11, 19, 28-31, 33 and 34 of the *Wilson* patent. (R. 606, Zurn Resp. at 34; Sloan’s Stmt. of Undisputed Facts, ¶ 50.) Zurn’s invalidity and unenforceability contentions include only § 103 invalidity contentions as to claim 12 of the *Wilson* patent. (R. 447 at 2-4.) Zurn also does not dispute that its only invalidity expert, Dr. Magee, expressed no opinion in his report as to the anticipation or obviousness of claims 1, 4-8, 10-11, 19, 28-31, 33 and 34. (*Id.* ¶ 51.) Zurn’s response is that it did not raise these contentions because its accused devices do not have a horizontal axis of plunger travel or an angled axis of plunger travel. (Zurn Resp. at 34.) Zurn also contends that under Sloan’s application of “axis of plunger travel” the asserted claims would be invalid because Zurn’s expert asserts that prior art handles available for sale more than one year prior to the filing date have plunger travel paths with horizontal and/or angled portions. (*Id.*) Thus, Zurn requests that if the Court agrees with Sloan’s construction of the “axis of plunger travel,” it be granted leave to amend its Amended Final Invalidity and Unenforceability Contentions to add contentions directed to anticipation and obviousness of the asserted claims. (*Id.* at 35.)

As noted above, Local Patent Rule (“LPR”) 3.1 states:

A party claiming patent infringement must serve on all parties ‘Final Infringement Contentions’ containing the information required by LPR 2.2 (a)-(h) within twenty-one (21) weeks after the due date for service of Initial Infringement Contentions. *Each party asserting invalidity or unenforceability of a patent claim*

shall serve on all other parties, no later than the same time that the Final Infringement Contentions are due, “Final Unenforceability and Invalidity Contentions” containing the information required by LPR 2.3 (b) and (c).”

N.D. Ill. LPR 3.1 (emphasis added). LPR 3.4 provides that a party may amend its final unenforceability and invalidity contentions only by order of court “upon a showing of good cause and absence of unfair prejudice to opposing parties made promptly upon discovery of the basis for the amendment.” N.D. Ill. LPR 3.4; *see also Fujitsu Ltd. v. Tellabs Ops. Inc.*, Nos. 08 C 3379, 09 C 4350 2012 WL 5444979, at *4 (N.D. Ill. Mar. 21, 2012). The purpose of such local patent rules is to “prevent a shifting sands approach to claim construction by forcing the parties to crystallize their theories of the case early in litigation.” *Fujitsu*, 2012 WL 5444979 at *4 (internal quotations omitted). A party’s showing of good cause must also show diligence in amending the contentions. *See O2 Micro Int’l Ltd. v. Monolithic Power Sys. Inc.*, 467 F.3d 1355, 1366 (Fed. Cir. 2006) (The “good cause” showing is not met “merely because new evidence was revealed during discovery” without also showing diligence in amending the contentions.) In particular, the Local Patent Rules require the moving party “to proceed with diligence in amending those contentions when new information comes to light in the course of discovery.” *Trading Techs, Int’l, Inc. v. BCG Partners, Inc.*, 10 C 715, 2011 WL 3946581 (N.D. Ill. Sept. 2, 2011). In showing diligence, the relevant inquiry is not when the party learned about the information, but when it could have made the discovery. *Thermapure, Inc. v. Giertsen Co. of Ill.* 10 C 4724, 2012 WL 6196912 (N.D. Ill. Dec. 11, 2012).

Zurn learned of Mr. Ballanco’s “portion of the path” theory, at the latest, on April 5, 2013. (*Id.*) Zurn did not raise the issue of seeking leave to amend its Invalidity and Unenforceability Contentions until July 25, 2013 (nearly four months later) and only did so in response to Sloan’s motion for summary judgment. Further, Zurn’s January 2012 Invalidity and

Unenforceability Contentions included §§ 102 and/or 103 invalidity contentions as to all of the asserted claims: 1, 4-8, 10-12, 14, 19, 29-31, and 33-34. (R. 635-3, Defendant's Updated Final Invalidity and Unenforceability Contentions at 2-4.) Zurn removed these contentions from its January 2013 invalidity and unenforceability contentions, which it filed after the *Markman* hearing. (R. 447.)

Even if it had shown good cause to amend its contentions, Zurn has not shown that it sought leave to add these invalidity contentions “promptly upon discovery of the basis for the amendment.” L.P.R. 3.4. This lack of diligence and delay by Zurn undermines any good cause it could have to warrant amendment, which it also has not shown. *See, e.g., Thermapure, Inc. v. Giertsen Co. of Illinois*, 10 C 4724, 2012 WL 6196912 at *2 (N.D. Ill. Dec. 11, 2012) (finding that the Local Patent Rules require the moving party to “proceed with diligence in amending those contentions when new information comes to light in the course of discovery.”) (citing *O2 Micro Int'l Ltd.*, 467 F.3d at 1368 (Fed. Cir. 2006)); *see also Fujitsu*, 2011 WL 4577906 at *3. Therefore, the Court will not consider Zurn's request for leave to amend its Amended Final Invalidity and Unenforceability Contentions.

For these reasons, the Court grants Sloan's motion for summary judgment on Zurn's counterclaim and affirmative defenses that claims 1, 4-8, 10-11, 19, 28-31, and 33-34 are invalid under §§ 102 or 103.

III. Zurn's Best Mode Defense

Zurn seeks to invalidate the *Wilson* Patent based on its best mode defense. Zurn must prove this defense by clear and convincing evidence. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1360 (Fed. Cir. 2011). “35 U.S.C. §112 requires that a patent's specification shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.”

Ateliers De La Haute-Garonne v. Broetje Automation USA Inc., 717 F.3d 1351, 1356 (Fed. Cir. 2013) (internal quotations omitted). As the Federal Circuit teaches, in order to establish patent invalidity based on a violation of the best mode, “it must be shown that the inventor possessed a better mode than was described in the patent, and that such better mode was intentionally concealed.” *Id.* at 356-57.

“To determine whether a best mode disclosure violation exists, a fact finder applies a two-prong test.” *Eurand, Inc. v. Mylan Pharms., Inc.*, 676 F.3d 1063, 1084 (Fed. Cir. 2012). The first prong is subjective and focuses on whether “the inventor possessed a best mode of practicing the claimed invention at the time of filing the patent application.” *Ateliers*, 717 F.3d at 1357. This inquiry focuses on “the inventor’s state of mind at the time he filed the patent application, and asks whether the inventor considered a particular mode of practicing the invention to be superior to all other modes at the time of filing.” *Eurand*, 676 F.3d at 1085. If the first prong is satisfied, the second prong requires the fact finder “to determine whether the specification discloses sufficient information such that one reasonably skilled in the art could practice the best mode.” *Eurand*, 676 F.3d at 1085 (citing *Eli Lilly & Co. v. Barr Labs, Inc.*, 251 F.3d 955, 963 (Fed. Cir. 2001)). “The second step is an objective inquiry to determine whether the inventor concealed from the public the best mode of practicing the invention.” *Ateliers*, 717 F.3d at 1357 (citations omitted). “Violation requires intentional concealment; innocent or inadvertent failure of disclosure does not of itself invalidate the patent.” *Id.*

Zurn and Sloan both move for summary judgment on Zurn’s defense that the *Wilson* Patent fails to satisfy the best mode requirement. The Court addresses their arguments in turn.

A. Angle of the Tilted Portion

Zurn claims that John Wilson, the inventor, violated the best mode requirement when he failed to disclose a specific angle of the tilted portion of the bushing passage. Both parties seek summary judgment on this defense.

The first prong of the best mode test depends on what the inventor believed when he filed the patent application. It is undisputed that the patent does not disclose the degree of tilt in the bushing passage. Zurn argues that John Wilson failed to disclose that there was a specific, best angle for the tilted portion of the bushing passage at the time he filed the patent application. (Zurn Mem. at 21-30.)

In January 2004, Mr. Wilson began working on developing a manual dual mode flush valve. (Zurn's Statement of Undisputed Facts, ¶ 46.) In November 2004, Mr. Wilson drafted a memo that stated that the Sloan dual flush manual handle would provide "a ½ flush with the handle push up, a full flush when the handle is push down." (*Id.*) Through internal testing, Sloan determined that an appropriate flush volume reduction for its dual flush manual handle would be 30% when activated in the up direction. (*Id.*, ¶ 55.) It is undisputed that Mr. Wilson experimented for months fine-tuning the bushing passage to arrive at the desired geometry that would consistently produce that 30% reduction in flush volume, and that the reduction was achieved by boring out the bushing passage at a specific angle. (*Id.*, ¶ 51-52, 55.) Zurn argues, that Mr. Wilson also settled upon a specific angle of 1° in the bushing passage to achieve the reduced flush volume. (Zurn Mem. at 24.)

Mr. Wilson testified that he did not settle on an angle for the invention. (R. 546-13, Wilson Dep. 69:22-24.) Mr. Wilson also testified that he did not settle on the specific angle for the specific Sloan commercial product until after the *Wilson* patent application was filed:

Q: Well, when did you get to the point where you had the dimensions in the angle determined that exist presently in today's production version of the Sloan Uppercut handle?

A: That would be just prior to true production when all the molds were approved.

Q: When was that?

A: The exact date, I don't know.

Q: Was it in 2005?

A: I believe it was in 2005.

Q: In the first half of 2005?

A: I would have to look it up.

Q: Was it before you filed your patent application?

A: Did I finalize the molds before I submitted the application?

Q: That's the question, right.

A: No, that happened after.

(*Id.* at 77:18-78:11.)

Q: At what point in time did you settle on the bore bushing profile that is opposite to what is shown in your patent?

A: The exact date, I don't recall.

Q: Was it before you filed the patent?

A: After the patent application because it was still in development at the time.

Q: So it was after you filed the patent?

A: Correct, the patent application.

(*Id.* at 100:6-14.) Further, it is undisputed that Mr. Wilson sent an email one month after the *Wilson* patent filing date that indicated that the mold used to manufacture Sloan's bushings was still being revised to account for a revised tilt angle "to increase the GPF [gallons per flush] reduction." (R. 557-2.)

In addition, Zurn's expert, Dr. Magee, also testified that the best angle of the tilted portion of the bushing component of the handle "would be dependent on the other components of the valve" and that the best angle for the Sloan valve might not be the best angle for the Zurn valve:

- Q: So the best angle would depend on a number of variables on the valve itself, correct?
- A: The – for a given output, it would be dependent on the other components of the valve, that's correct. So there would be some valve specificity connected to it.
- Q: So what might be the best angle for a Sloan valve might not be the best angle for a Zurn valve?
- A: That is correct, but I doubt that they would be much different.
- Q: Well, in fact, you know what the two values are in the valves involved, right? You know that the angle for the Zurn valve is 0.75, correct?
- A: That's correct.
- Q: And you know that the angle for the Sloan valve is around 1 degree, correct?
- A: Attorneys' eyes only.
- Q: Yes?
- A: Yes.

(R. 557-1, Magee Dep. 68:11-70-3.)

This evidence does not support that Wilson subjectively considered there to be a best mode for carrying out the invention at the time of filing – even viewing it in the light most favorable to Zurn. Zurn's reliance on *Wellman, Inc. v. Eastman Chemical Co.*, 642 F.3d 1355 (Fed. Cir. 2011) for the proposition that "[a] concession that claimed aspects of a commercial embodiment are within the scope of the asserted claims of the patent shows the subjective preference for the commercial embodiment" is misplaced. Indeed, the Federal Circuit in

Wellman specifically noted that “[a] party’s failure to disclose its commercial mode does not ipso facto result in a § 112 violation because the focus of a best mode inquiry remains on the claimed invention rather than the marketed product.” *Id.* at 1364 (citing *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1567 (Fed. Cir. 1996)). *See also Bayer AG v. Schein Pharmaceuticals, Inc.*, 301 F.3d 1306, 1315 (Fed. Cir. 2002) (noting that “in keeping with the statutory mandate, our precedent is clear that the parameters of a section 112 inquiry are set by the CLAIMS”) (citations and quotations omitted). Thus, Zurn’s focus on the commercial embodiment as the sole basis for granting summary judgment in its favor fails.

Zurn further claims that it has established that Wilson subjectively knew that there was a specific, best angle for the tilted portion of the bushing passage at the time he filed the patent application because “Sloan had four different prototypes in its possession, each with a different angle, yet none of these prototypes found their way into the [*Wilson*] Patent.” (Zurn Resp. at 23.) As the Federal Circuit has explained:

The best mode requirement does not mandate the disclosure of each detail of prototypes made prior to filing for a patent. *Wahl Instruments, Inc. v. Acvious, Inc.*, 950 F.2d 1575, 1581, 21 U.S.P.Q. 2d 1123, 1128 (Fed. Cir. 1991). The record indicates that the defendants questioned Parisi about several modifications made to his prototype devices during their development and then tried to induce him to agree that at least one of these modifications was made because he considered it “best” to make it. However, the best mode inquiry is not mechanical.

Mentor H/S, Inc. v. Medical Device Alliance, Inc., 244 F.3d 1365, 1375 (Fed. Cir. 2001). In addition, the fact that Mr. Wilson had four different embodiments with different angles supports that Mr. Wilson contemplated more than just one angle.

Regarding the objective prong, Zurn contends that the “clear weight of Federal Circuit authority holds that intentional concealment is not required for best mode violations.” (Zurn Mem. at 26.) The Federal Circuit, however, specifically rejected this position just three weeks

before Zurn filed its memorandum in support of summary judgment. Specifically, the Federal Circuit held that intentional concealment is necessary for a violation of best mode – the “issue is whether the inventors knew of and deliberately concealed a better mode than they disclosed.” *Ateliers*, 717 F.3d at 1357-59. The primary thrust of Zurn’s objective inquiry argument is premised on a faulty reading of the law, namely, that it does not have to establish that Wilson intentionally concealed the best mode. Accordingly, many of its arguments fail.

The only evidence Zurn identifies in support of “intentional concealment” is a May 20, 2005 email from Greg Spoor at Sloan to Jim Allen, Julie Shireman, Steve Mader, John Wilson, and John Lauer regarding “Dual-Flush repair kit.” (R. 563-5, Exhibit 15.) It is unclear what role Greg Spoor plays at Sloan. In the email, Spoor writes the following:

I would vote no. My reasons are:

I doubt anyone will know exactly how this system works enough to buy the correct part, other than the obvious Handle broken etc.

If it is something that obvious it is a part that makes up the bulk of the assembly so why not sell the entire item.

Most importantly, we are assembling these to a spec and defined orientation. If a customer takes it apart all that is lost and personally I think we need to keep that a very big secret. I am sure the competition may someday figure out how John did this but let’s not speed up the process!

(*Id.*) Wilson responded that he also voted “no” and that “[w]e would have to include installation instructions with the repair kit, and the installer would have to follow the instructions.” (*Id.*)

Viewing this email exchange in the light most favorable to Zurn, it does not raise an issue of fact regarding Wilson’s intentionally concealing the specific angle of the tilted portion of the bushing passage. This email pertains to a repair kit. Even looking at it in the light most favorable to Zurn, it does not mention the angle of the tilted portion. Zurn cannot rely on this vague email to establish clear and convincing evidence that Wilson intentionally concealed the specific angle.

Viewing this evidence in the light most favorable to Sloan, Zurn has not submitted clear and convincing evidence of invalidity based on best mode that no reasonable juror could find otherwise. In fact, Sloan is entitled to summary judgment on this aspect of Zurn's best mode defense. There simply is no evidence in the record upon which a reasonable jury could rely to find that Wilson intentionally concealed the specific angle of the tilted portion of the bushing passage for practicing his invention.

B. The 30% Reduction

Zurn next claims that Wilson failed to disclose the best mode of the invention when he failed to disclose that the amount of water reduction necessary for an adequate reduced flush volume is 30%.

Zurn failed to disclose its 30% theory in its Final Non-Infringement Contentions. Local Patent Rule 3.2 provides:

Each party asserting non-infringement of a patent claim shall serve on all other parties "Final Non-infringement Contentions" within twenty-eight (28) days after service of the Final Infringement Contentions, containing the information called for in LPR 2.3(a).

N.D. Ill. LPR 3.2.) Zurn cannot now add an additional invalidity contention without notice.

Accordingly, the Court grants summary judgment on this aspect of the best mode defense as a matter of law.

Furthermore, as noted above, Zurn must establish intentional concealment for a best mode violation. 717 F.3d at 1357-59. Not only does Zurn argue that intentional concealment is not necessary, it fails to set forth any evidence regarding any intent on Wilson's part to conceal the adequate reduced flush volume. Sloan, therefore, is entitled to summary judgment because Zurn has not identified any issue of material fact as to intentional concealment.

IV. Zurn's Enablement Defense

Zurn next contends that the asserted claims are invalid under 35 U.S.C. § 112 because the specification does not enable one to make or use the invention as recited. (Amended Final Invalidity and Unenforceability Contentions, ¶¶ 4-7, 10-11, 13-16.) Sloan moves for summary judgment on Zurn's affirmative defense of lack of enablement.

It is well established that, in order to be valid, a patent specification must meet the enablement requirement of § 112. *Anascope, Ltd. v. Nintendo of Am., Inc.*, 601 F.3d 1333, 1342 (Fed. Cir. 2010). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation." *Teva Pharms. USA v. Sandoz, Inc.*, 723 F.3d 1363, 1370 (Fed. Cir. 2013) (internal quotations omitted). To prove a lack of enablement, one must show that at the time of filing the application one skilled in the art, having read the specification could not practice the invention without "undue experimentation." *Cephalon, Inc. v. Watson Pharms.*, 707 F.3d 1330, 1336 (Fed. Cir. 2013) (citation omitted). The party asserting the enablement defense must prove lack of enablement by clear and convincing evidence. *Id.* at 1337. Whether the subject matter of a patent claim satisfies the enablement requirement is a question of law. *Auto. Techs. Intern., Inc. v. BMW of North America, Inc.*, 501 F.3d 1274, 1281 (Fed. Cir. 2007).

Sloan contends that the basis for Zurn's lack of enablement defense – its "undue experimentation" argument – is directed not at the claimed invention, but rather at the commercial embodiment. (Sloan Mem. at 45-46.) Indeed, Zurn's Amended Final Invalidity and Unenforceability Contentions attack the specification because it "fails to provide the degree of tilt between the claimed first and second axes of plunger travel" (R. 447, ¶ 4), "fails to provide any degree or range of degrees of the angle between the two axes or the relative dimensions of

the bushing passage” (*Id.*, ¶ 5), “fails to provide any instructions on the necessary quantitative difference between the two volumes of water” (*Id.*, ¶ 6), and “does not define the first flush volume of water or second flush volume of water” (*Id.*, ¶¶ 14-16). Such specific details describe Sloan’s commercial embodiment rather than the claimed invention. Zurn’s attack on the specification for failing to disclose the specific flush volumes, for example, misses the mark. The Court did not limit the claims to a flush valve that achieves a specific 30% reduction in flush volume. (R. 391, *Markman* Opinion at 19.) Instead, the Court found that the patent requires only that the flush valve permit two distinct flush volume modes. (*Id.* at 16-25.) The invalidity report of Zurn’s expert, Dr. Magee, also addressed Sloan’s commercial embodiment rather than the claimed invention. Dr. Magee opined, “[w]ithout this information, one would have to resort to undue experimentation to arrive at the Sloan UpperCut® handle...” (R. 546-10, Magee Invalidity Report, ¶¶ 47.) The *Wilson* patent claims, however, are not limited to the specific Sloan UpperCut® embodiment. (Sloan’s Stmt. of Undisputed Facts, ¶ 60.)

Zurn responds that its actual enablement contention is that one of skill “cannot make and use a flush valve with a horizontal and an angled axis of plunger travel by following the teachings of the ‘635 patent.” (Zurn Resp. at 23.) This argument, however, was not disclosed in Zurn’s Amended Final Invalidity and Unenforceability Contentions and Zurn does not provide any citation to any place in the record where it disclosed such an enablement argument. Thus, Zurn is precluded from raising this invalidity argument at this late date. *See* N.D. Ill. LPR 3.1 and 3.4; *see also Fujitsu Ltd.*, 2012 WL 5444979 at *4, *Trading Techs.*, 2011 WL 3946581, *Thermapure*, 2012 WL 6196912, *supra*, pp. 21-23.

Further, Dr. Magee’s “undue experimentation” opinion fails because it is conclusory and unsupported by fact. (Sloan Mem. at 47.) The only actual evidence Dr. Magee cites in support

of his argument is “the amount of time that Mr. Wilson took to arrive at a final product (*i.e.*, January 2004 – August 2005), and Mr. Ballanco’s alleged disclaimer that even with the disclosure of the *Wilson* Patent, additional fine-tuning, component compatibility testing, or other performance testing would be required to arrive at a fully functioning product.”⁶ (R. 546-12, Magee Invalidity Reply Report, ¶ 45.) These statements refer to the Sloan UpperCut® and not the claimed invention. The remaining enablement arguments proffered by Dr. Magee are conclusory statements. (Magee Invalidity Report, ¶ 50: “it is my opinion that if one builds a handle assembly as disclosed in the [*Wilson*] Patent, one would not have achieved a handle assembly that has an angled axis of plunger travel or a horizontal axis of plunger travel because the handle is a complex system with many forces acting on the plunger...”) Unsupported expert opinions regarding factual determinations carry little probative weight and have a high hurdle to clear in meeting the clear and convincing standard. *Cephalon*, 707 F.3d at 1338 (Fed. Cir. 2013) (citing *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.3d 281, 294 (Fed. Cir. 1985)). Moreover, Dr. Magee testified that he is not certified as a plumbing designer, has no experience in designing any plumbing device, and would have no basis to contest an opinion by one who has experience designing flush valves. (Magee Dep., 7:24-8:2; 10:8-10; 89:21-90:5.) On that basis, the Court found that Dr. Magee is not one skilled in the ordinary art. (R. 672, Magee *Daubert* Opinion.) Thus, Dr. Magee is not qualified to opine about what constitutes undue experimentation in the flush valve industry.

For these reasons, even viewing the evidence in the light most favorable to Zurn, Zurn is not able to prove lack of enablement by clear and convincing evidence and the Court grants Sloan’s motion for summary judgment on Zurn’s enablement defense.

⁶ Dr. Magee’s reference to Mr. Ballanco’s alleged disclaimer does not include a citation and the Court is unable to determine whether Dr. Magee’s citation is accurate.

V. Zurn's Written Description Defense

Sloan next moves for summary judgment on Zurn's written description defense under 35 U.S.C. § 112(a). "Compliance with patent law's written description requirement is a question of fact but is amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the non-moving party." *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1312-13 (Fed. Cir. 2010) (quoting *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1307 (Fed. Cir. 2008)). The Federal Circuit has explained that the written description provision of section 112 "requires that the specification objectively demonstrate that the applicant actually invented – was in possession of – the claimed subject matter." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1349 (Fed. Cir. 2010); *see also Synthes USA, LLC v. Spinal Kinetics, Inc.*, 2013 WL 5788675 at *4 (Fed. Cir. Oct. 29, 2013). "Assessing possession as shown in the disclosure requires an objective inquiry into the four corners of the specification. Ultimately, the specification must disclose an invention understandable to [a] skilled artisan and show that the inventor actually invented the invention claimed." *Novozymes A/S v. Dupont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013) (citations and quotations omitted).

As an initial matter, Sloan correctly notes that Zurn's response raises a defense that it failed to disclose in its Amended Final Invalidity and Unenforceability Contentions – that the *Wilson* patent specification allegedly does not provide an adequate written description of how to achieve a horizontal axis of plunger travel and an angled axis of plunger travel. (Sloan Reply at 26.) Sloan argues that the Court should therefore preclude Zurn from raising it at this stage. Zurn's only written description invalidity contentions state:

7. Claims 12, 14, 19, 28, 29, and 30 are invalid under 35 U.S.C. §112, first paragraph, because the specification does not enable one of ordinary skill to make

or use, and does not provide a written description of the invention as recited. The claims recite a “system” for operating a water flush valve. However, the specification does not enable one of ordinary skill in the art to make and use the claimed system without undue experimentation because the description fails to provide any details on the nature or description of the bowls to be used in the system.

9. Claims 12 and 14 are invalid under 35 U.S.C. § 112, first paragraph, because the specification fails to establish that the inventors had possession of system (sic) that would flush a “first volume of water” and a “second volume of water.” The specification fails to provide any volumes of water, and therefore, it fails to establish that the inventors had possession of a system that could flush a first volume of water and a second volume of water.

(Zurn Am. Final Invalidity and Unenforceability Contentions, ¶¶ 7, 9.) Zurn did, however, assert this argument in Dr. Magee’s corresponding Invalidity Report, where he opined, “the [Wilson] specification does not provide an adequate written description of how to achieve a horizontal axis of plunger travel and an angled axis of plunger travel, and fails to comply with the 35 U.S.C. § 112, first paragraph, written description requirement.” (Magee Invalidity Report, ¶ 51.) Further, Sloan was clearly on notice of Zurn’s argument because Sloan addressed the merits of Dr. Magee’s written description invalidity opinion in its memorandum in support of its motion for summary judgment. (Sloan Mem. at 49.) Therefore, the Court will not preclude Zurn from raising this defense.

Ultimately, Zurn’s written description defense rests on its argument that the specification could not have adequately described the invention because the plunger in Sloan’s product does not travel along a horizontal axis of plunger travel and an angled axis of plunger travel. The Court has already decided that there remains a genuine dispute regarding this material fact, therefore, Sloan is not entitled to summary judgment on Zurn’s written description defense.

VI. Sloan’s Willful Infringement Claims

Zurn seeks summary judgment on Sloan’s willful infringement claim on four grounds: (1) Sloan declined to seek a temporary injunction at any point; (2) Sloan’s bases for willful

infringement are unpersuasive; (3) Zurn’s defenses to infringement are reasonable; and (4) Zurn successfully sought reexamination of the *Wilson* Patent. (Zurn Mem. at 30-36.) The Court addresses each argument in turn.

In order to make the requisite showing for willful infringement, the patentee must show by clear and convincing evidence that the accused infringer “acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.” *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assoc., Inc.*, 682 F.3d 1003, 1005 (Fed. Cir. 2012) (citing *In re Seagate Tech.*, 497 F.3d 1360, 1371 (Fed. Cir. 2007)). “The state of mind of the accused infringer is not relevant to this objective inquiry.” *Seagate*, 497 F.3d at 1371. If the patentee satisfies this objective standard, it then “must also demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer.” *Id.* The objective prong tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement. *Advanced Fiber Techs. Trust v. J & L Fiber Svcs., Inc.*, 674 F.3d 1365, 1377 (Fed. Cir. 2012). The threshold objective prong of *Seagate* is a question of law based on underlying mixed questions of law and fact. *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assoc., Inc.*, 682 F.3d 1003, 1005 (Fed. Cir. 2012).

A. Preliminary Injunction

The *Wilson* patent issued on October 27, 2009. (Sloan’s Stmt. of Undisputed Facts, ¶ 3.) Sloan filed this suit on January 13, 2010. (R. 1, Compl.) Sloan bases its willfulness claim, in part, on Zurn’s alleged intentional copying of Sloan’s patented product, and its continuing infringement from October 27, 2009 through the date of the filing of this suit. (Sloan Resp. at 30.) Zurn argues that *Seagate* precludes a patentee from succeeding on a willfulness claim

where the patentee does not seek a preliminary injunction. (Zurn Mem. at 31.) Zurn's quoted passage from *Seagate*, however, refers to a patentee's failure to seek a preliminary injunction based solely on the accused infringer's post-filing conduct. 497 F.3d at 1374. *See also Krippelz v. Ford Motor Co.*, 675 F. Supp. 2d 881, 898 (N.D. Ill. 2009), *rev'd on other grounds*, 667 F.3d 1261 (Fed. Cir. 2012) (finding that *Seagate* does not impose obstacle to discovery based on the failure to seek preliminary injunctive relief where the defendant's alleged willful conduct began before the start of litigation). Zurn ignores that Sloan's willful infringement claim is based in part on Zurn's alleged intentional copying of Sloan's product and its continuing infringement in October through December of 2009 and early January 2010 before Sloan commenced this litigation. As a result, Sloan's failure to seek preliminary injunctive relief does not preclude relief on its claim of willful infringement.

B. Sloan's Bases for Willful Infringement

Zurn argues that Sloan bases its willful infringement claim solely on the expert testimony of Michael Thuma, Dr. Edward Caulfield, and Harry Gwinnell. (Zurn Mem. at 32.) Sloan disclosed Mr. Thuma as one of its technical experts and asked him to opine on "the complexity of fabricating Zurn's fixture with respect to level of skill and amount of time." Sloan disclosed Dr. Caulfield as a technical expert to challenge the adequacy of Zurn's "life cycle testing procedures," which formed the basis of Zurn's opinion of counsel. Sloan disclosed Mr. Gwinnell to provide opinion testimony that Zurn was reckless in continuing to sell its accused products after the USPTO rejected the invalidity arguments on which its counsel had relied and in relying on the opinion of counsel to the extent it was based on unreliable data. Zurn moved to exclude the testimony of each of these witnesses pursuant to Fed. R. Evid. 702 and *Daubert*. (R.

519, R. 522, R. 524.) Zurn argues that because the Court should exclude the witnesses under *Daubert* and Federal Rule of Evidence 702, Sloan cannot establish willful infringement.⁷

As the Court explained in its rulings on Zurn’s *Daubert* challenges, Mr. Thuma and Dr. Caulfield may offer their opinions at trial, but Mr. Gwinell may not. (R. 640, R. 645, R. 661.) Mr. Thuma may provide his opinion regarding the time it would take to design and fabricate a fixture similar to the fixture that Zurn uses to machine the angled axis into its retainer. As the Court previously explained, this opinion is relevant to Sloan’s argument regarding copying. It is clear that evidence of intentional copying is relevant to a willfulness determination. *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1285 (Fed. Cir. 2000); *see also In re Hayes Microcomputer Prods., Inc. Patent Litig.*, 982 F.2d 1527, 1543 (Fed. Cir. 1992) (“Whether the infringer intentionally copied the ideas of another” is a relevant factor to a willfulness determination). Intentional copying is also a relevant factor in determining whether a case is “exceptional” when a court determines whether to award fees. *Spectralytics, Inc. v. Cordis Corp.*, 649 F.3d 1336, 1347-48 (Fed. Cir. 2011); *i4i Ltd. P’Ship v. Microsoft Corp.*, 598 F.3d 831, 859 (Fed. Cir. 2010).

Viewing the evidence in the light most favorable to Sloan, an issue of fact exists as to whether Zurn intentionally copied Sloan’s product. Specifically, Zurn learned of Sloan’s manual dual mode flush valve in May 2005 and expressed concern about coming “up with something.” (R. 619-34, Funari Dep. 107:12-21; R. 611-12, ZP002752.) On June 24, 2005, Zurn’s engineer, Michael Funari, purportedly completed the design of a Zurn dual flush valve and stated, “we designed a dual flush handle today during lunch hour . . . this shouldn’t be a problem for us.” (R.

⁷ Zurn also states, “even if Sloan’s experts were not excluded, as Sloan cannot meet the objective prong of *Seagate*, its claim for willfulness must fail as a matter of law.” (R. 574 at 33.) Zurn provides no further support or development for this conclusory statement. Therefore, Zurn has waived this argument. *ADT Sec. Servs., Inc. v. Lisle-Woodwridge Fire Protection Dist.*, 724 F.3d 854 (7th Cir. 2013) (undeveloped arguments are waived).

611-13, ZP002731.) In a July 13, 2005 email, Mr. Funari stated, “we can even dupbetter [sic].” (R. 611-14, ZP00673.) On July 21, 2005, Mr. Funari wrote in an email “we have some tools on order that should allow us to complete our design . . . we would need a week to tweak some dimensions, water test and finalize drawings . . . two weeks sounds reasonable.” (R. 611-15, ZP002789.) On August 4, 2005, Zurn announced that it had a commercially available dual flush valve product. (R. 611-16, SVC0007488.) Internal Zurn correspondence, however, indicates that its product was not ready for commercial use at that time. (R. 611-17, ZP003410.) One week after Zurn announced that it had a commercially available dual flush valve product, a Zurn employee asked, “can we get a Sloan unit? Would like to see what they are up to?” (*Id.*) On August 19, 2005, Zurn arranged to obtain six copies of Sloan’s dual flush valve. (R. 611-18, ZP002824.) Zurn tested the flush volume of its dual flush product in September and October 2005, and Mr. Funari admitted the results of this testing were erratic. (R. 619-5, ZP004004; Funari Dep. 143:9-18.) According to Sloan, Zurn obtained Sloan’s dual flush handles on November 11, 2005. (R. 591, Sloan Thuma Daubert Resp. at 5.) An internal Zurn email indicates that its product was still not ready on November 30, 2005. (R. 611-19; ZP003030 (“When is our Sucker Punch going to be ready . . . the competition will never see it coming.”) By that same date, Zurn had obtained and tested the Sloan dual mode flush handles. (Funari Dep. 172:18-173:4; R. 619-6, ZP004092-95.) On December 12, 2005, Zurn created drawings for its own dual flush handle. (R. 619-7, ZP003154.) Zurn released its dual flush valve product at the end of December 2005. (Sloan Stmt. of Undisputed Facts, ¶ 12.)

Furthermore, in June 2005, Zurn represented that the only issue that prevented it from completing its design was “tooling.” Viewing this evidence in the light most favorable to Sloan, on November 14, 2005, Zurn told its counsel that it was still waiting for tooling. Based on

certain email correspondence, the only tooling Zurn had to develop was the fixture which it uses to mill out the second, angled bore in its retainer. According to Mr. Thuma, Zurn could have designed and fabricated such a fixture in less than a day.

C. Zurn's Non-Infringement and Invalidity Defenses

Zurn argues that its non-infringement positions are objectively reasonable and weigh in favor of granting summary judgment for Zurn on Sloan's willful infringement claim. (Zurn Mem. at 33.) In support, Zurn contends that its proposed claim constructions, which it argues are central to its reasonable non-infringement positions, are objectively reasonable because the Court adopted part of them. (*Id.* at 33-34.) Zurn also argues that its invalidity defenses and unenforceability positions are also credible. (*Id.* at 34-36.)

As an initial matter, Zurn cites no case law supporting its conclusory argument that its non-infringement positions are objectively reasonable because the Court adopted some of its claim construction positions. "Perfunctory and undeveloped arguments, and arguments that are unsupported by pertinent authority, are waived." *United States v. Hook*, 471 F.3d 766, 775 (7th Cir. 2006). Further, claim construction defines the scope of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) ("It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'") (citation omitted). A literal infringement analysis is a two-step process: determining the proper claim construction and applying that construction to the accused product. *ActiveVideo Networks, Inc.* 694 F.3d at 1319. Zurn's argument ignores the second step of that process. Its argument, therefore, fails.

When the objective prong of the willful infringement analysis turns on fact questions or on legal questions dependent on the underlying facts, the Court decides whether the defense was

reasonable. *Bard v. Peripheral Vascular, Inc. v. W.L. Gore & Associates*, 682 F.3d 1003, 1007 (Fed. Cir. 2012). The Court does so “even when the underlying fact question is sent to a jury.” *Id.* Here, Sloan’s infringement claims survive summary judgment and will be tried before a jury. It is more appropriate to decide the objective reasonableness of Zurn’s non-infringement defenses with the benefit of the jury’s factual findings on infringement. *See Fujitsu Ltd. v. Belkin Int’l, Inc.*, 2012 WL 4497966 at *39 (N.D. Cal. 2012) (stating “in light of *Bard Peripheral*...it would be more appropriate to decide the legal issue of willfulness with the benefit of the jury’s factual findings”); *WesternGeco L.L.C. v. ION Geophysical Corp.*, 876 F. Supp. 2d 857, 906 (S.D. Tex. 2012) (“[i]t is up to a jury to determine whether the Defendants’ invalidity arguments ... are credible, and whether they demonstrate that Defendants did not act despite an objectively high likelihood that their actions constituted infringement of a valid patent”). Further, the Court is granting summary judgment to Sloan on Zurn’s invalidity defenses of anticipation, obviousness, best mode, and enablement. Zurn’s remaining invalidity defenses will go to a jury. As with infringement, the Court will rule on the objective reasonableness of Zurn’s remaining invalidity defenses with the benefit of the jury’s factual findings.

D. The USPTO’s Decision to Grant Zurn’s Request for Reexamination

In further support of its summary judgment motion on willful infringement, Zurn contends that the USPTO’s decision to grant Zurn’s *ex parte* request for reexamination of the *Wilson* patent favors a grant of summary judgment of no willful infringement. Zurn argues that its request was based on a reasonable theory – that the prior art (the *Billeter* patent) teaches handles with a larger diameter than the diameter of the plunger, thereby allowing for two different axes of plunger travel. (Zurn Mem. at 36.) In an initial office action, the USPTO rejected claims 1, 5, 7, 8, 12, 14, 19, and 31. (Zurn’s Statement of Undisputed Facts, ¶ 80.)

During the reexamination, Sloan amended claims 1, 12, and 18, and these claims were confirmed. (*Id.* at 81.) Zurn argues that these amendments were made to overcome the prior art and, thus, warrant summary judgment of no willful infringement. (Zurn Mem. at 37.)

In *Hoechst Celanese Corp. v. BP Chemicals Ltd.*, 78 F.3d 1575, 1584 (Fed. Cir. 1996), the Federal Circuit rejected Zurn’s argument. It specifically held that “the grant of a request for reexamination ... does not establish a likelihood of patent invalidity.” *Id.*; see also *Acoustical Design, Inc. v. Control Electronics Co. Inc.*, 932 F.2d 939, 942 (Fed. Cir. 1991). Zurn’s reliance on *Seagate* as overruling *Hoechst* fails. As the court in *Krippelz v. Ford Motor Co.*, 675 F. Supp. 2d 881, 895 (N.D. Ill. 2009) (reversed on other grounds) noted, the “Federal Circuit’s *Seagate* decision did not disturb this holding of *Hoechst Celanese*.” Zurn also cited no cases indicating that *Seagate* overruled *Hoechst* on this issue. Further, since the *Seagate* decision, courts have consistently followed *Hoechst* for the proposition that the grant of a request for reexamination is not probative of unpatentability. See *Dataquill, Ltd. v. High Tech. Computer Corp.*, 887 F. Supp. 2d 999, 1017 (S.D. Cal. 2011); *Tesco Corp. v. Weatherford Int’l, Inc.*, 750 F. Supp. 2d 780, 794 (S.D. Tex. 2010); *Power Integrations Inc. v. Fairchild Semiconductor Int’l*, 762 F. Supp. 2d 710, 718 (D. Del. 2009) (finding defendant’s arguments about the PTO proceedings “unavailing” and stating “[e]vidence relating to reexaminations is not necessarily ‘essential’ or ‘basic’ to the willfulness issue”).

Even if *Seagate* had impacted the decision in *Hoechst*, Zurn concedes that the USPTO’s grant of a reexamination request is only a “factor” to consider in determining whether an accused infringer acted in an objectively reckless manner. (Zurn Mem. at 36.) Given that the asserted *Wilson* Patent claims survived the reexamination proceedings, this factor does not weigh

exclusively in Zurn's favor and cannot be dispositive as to whether Zurn acted in an objectively reckless manner.


For the reasons identified above, the Court finds that a reasonable jury could find for Sloan on its willful infringement claim and denies Zurn's motion for summary judgment on willful infringement.

CONCLUSION

For the foregoing reasons, the Court grants Sloan's motion for summary judgment on Zurn's anticipation and obviousness defenses under §§ 102 and 103; Zurn's best mode defense; and Zurn's enablement defense. The Court denies Sloan's motion for summary judgment on direct infringement and written description. The Court also denies Zurn's motion for summary judgment in its entirety.

DATED: November 20, 2013

ENTERED



AMY J. ST. EVE
U.S. District Court Judge